

IN THE CLAIMS

Please amend the claims as follows:

Claims 1- 25 (Cancelled).

Claim 26 (Currently Amended): A method of operating a plasma processing system in order to deposit a film containing a metal or a semiconductor on a substrate using atomic layer deposition (ALD), the method comprising the steps of:

adjusting a background pressure in a process chamber, wherein the background pressure is established by continuously flowing a first gas flow of a first precursor into the process chamber, the first precursor including a metal or semiconductor element which is a main component of the film to be deposited on the substrate, the first precursor being selected from the group consisting of WF<sub>6</sub>, W(CO)<sub>6</sub>, TaCl<sub>5</sub>, PDEAT (pentakis(diethylamido) tantalum), PEMAT (pentakis(ethylmethylamido) tantalum), TaBr<sub>5</sub>, TBTDET (t-butylimino tris(diethylamino) tantalum), molybdenum hexafluoride, Cu(TMVS)(hfac), (Trimethylvinylsilyl) hexafluoroacetylacetone Copper I, CuCl, Zr(NO<sub>3</sub>)<sub>4</sub>, ZrCl<sub>4</sub>, Hf(NO<sub>3</sub>)<sub>4</sub>, HfCl<sub>4</sub>, niobium pentachloride, zinc dichloride, Si(NO<sub>3</sub>)<sub>4</sub>, SiCl<sub>4</sub>, dichlorosilane, Ti(NO<sub>3</sub>)<sub>4</sub>, TiCl<sub>4</sub>, TiI<sub>4</sub>, tetrakis(diethylamino)titanium, tetrakis(dimethylamino)titanium, aluminum trichloride, trimethylaluminum, gallium nitrate, trimethylgallium, and Cr oxo-nitrate;

igniting a processing plasma in the process chamber by providing an RF signal at a first power level;

pulsing a second gas flow of a second precursor through a pulsed injection manifold to the process chamber at a first time, the second gas comprising a second precursor including at least one of H<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub>, H<sub>2</sub>O, NH<sub>3</sub>, or H<sub>2</sub>O<sub>2</sub>, which provides a reduction reaction with the first precursor to deposit the metal or semiconductor main component of the film on the substrate;

pulsing a RF power to a substrate holder by amplifying said first power level at a second time, to a second power level in order to improve conformal coating of high aspect ratio features of the substrate; and

sequentially depositing at least one monolayer of said film containing a metal or a semiconductor using said first gas and said second gas, while periodically amplifying to said second power level in order to improve conformal coating of the monolayer on high aspect ratio features in the substrate.

Claim 27 (Original): The method according to claim 26, wherein the step of pulsing the second gas flow is performed for a predetermined pulse width.

Claim 28 (Original): The method according to claim 26, wherein the step of pulsing the second gas flow is performed for a predetermined pulse period.

Claim 29 (Original): The method according to claim 26, wherein the step of pulsing the second gas flow is performed to achieve a predetermined pulse duty cycle.

Claim 30 (Original): The method according to claim 26, wherein the step of pulsing the RF power is performed for a predetermined pulse width.

Claim 31 (Original): The method according to claim 26, wherein the step of pulsing the RF power is performed for a predetermined pulse period.

Claim 32 (Original): The method according to claim 26, wherein the step of pulsing the RF power is performed to achieve a predetermined pulse duty cycle.

Claim 33 (Original): The method according to claim 26, wherein the step of pulsing the second gas flow is performed for a first pulse width, and wherein the step of pulsing the RF power is performed for a second pulse width, said first pulse width being substantially equivalent to said second pulse width.

Claim 34 (Original): The method according to claim 26, wherein the step of pulsing the second gas flow is performed for a first pulse period, and wherein the step of pulsing the RF power is performed for a second pulse period, said first pulse period being substantially equivalent to said second pulse period.

Claim 35 (Original): The method according to claim 26, wherein the step of pulsing the second gas flow is performed to achieve a first pulse duty cycle, and wherein the step of pulsing the RF power is performed to achieve a second pulse duty cycle, said first pulse duty cycle being substantially equivalent to said second pulse duty cycle.

Claim 36 (Original): The method according to claim 26, wherein the first time of the pulse of second gas flow substantially corresponds to the second time of the pulse of RF power.

Claim 37 (Original): The method according to claim 26, wherein the first time of the pulse of second gas flow is offset from the second time of the pulse of RF power.

Claim 38 (Canceled).

Claim 39 (New). The method of Claim 26, wherein said pulsing a second gas flow comprises pulsing a gas flow of a second precursor that does not include a metal or semiconductor element therein.

Claim 40 (New). The method of Claim 26, wherein said pulsing a second gas flow of a second precursor occurs after a monolayer of the first precursor is adsorbed on a surface of the substrate.